



VOLUME 71 ISSUE 9
Sept. 2020

PPRAA Club Officers

President	<u>Don DuBon, N6JRL+</u>
Vice President	<u>Tom Oliphant, KØBUL+</u>
Secretary	<u>Jay Winterton, WØWJ+</u>
Treasurer	<u>Dick Kohlhaas, W5UDM+</u>
Ø-Beat Editor	<u>Jerre Redding, WAØBCM</u>
Webmaster	<u>Douglas Nielsen, N7LEM</u>
Past President	<u>Jim Bishop, KD0KQL</u>
Board	<u>John Bloodgood, KDØSFY*</u>
Board	<u>R, Lee Glazer KEØYSE</u>
Board	<u>Dennis Major, NØABC</u>
Board	<u>Logan Perry, KEØKZA</u>
Board	<u>Anthony Mitchell, KEØLQK</u>
Board	<u>Mike McLaughlin, KØJT*</u>
Board	<u>Michael Walter KEØTWK</u>
Board	<u>Mike Anderson, WV7T*</u>

* In final year of 2-year term

+ One year officer position

All officers can be contacted at: boardmembers@ppraa.org

Monthly Ham Breakfast

La Tartine, 1420 Kelly Johnson Blvd
Saturday, October 3, 2020 8 – 9:30 AM



PPRAA General Membership meeting (9 September) will be virtual

– There will be an online meeting via Zoom. The business meeting starts at 7 PM, but get your dinner and beverage of choice and check in any time after 6 PM for a social hour. Club members check your email for info or email [Officers](#) to receive the Zoom information.



PPRAA

Pikes Peak Radio Amateur Association

August 2020 Board Meeting Minutes

8/10/2020

CTO @ 6:30 PM by K0BUL (Tom)

In Attendance:

N6JRL (Don Dubon), K0BUL (Tom Oliphant), WA0BCM (Jerre Redding), W0WJ (Jay Winterton), W5UDM (Dick Kohlhaas), N7LEM (Doug Nielsen), KD0KQL (Jim Bishop), N0ABC (Dennis Major), KD0SFY (John Bloodgood), K0JT (Mike McLaughlin), KE0TWK (Michael Walter), KE0LQK (Anthony Mitchell)

New Business:

- SK's: None
- Treasurers report by W5UDM, Dick
- VEC Testing Report by N0ABC, Dennis
 - 20 applicants total. 4 upgrades to extra, 1 upgrade to general, 2 new generals, 10 new technicians, and 3 unsuccessful
- ZeroBeat Report by WA0BCM, Jerre – Skipped, not present.
- Webmaster report, N7LEM, Doug
 - Updated the website
 - Hamcon planning meeting – looking at tentative dates and venues for next year. If have to cancel next year they'll drop out and continue with the normal rotation.
- Secretary's Report – KD0VRB, Jay
- PPARES Report by KD0SFY, John
 - Colorado QSO Party – Info on webpage is now updated for 2020 per N7LEM.
 - Pikes Peak International Hill Climb – They don't want to have us up on the mountain because of restraints. Same thing with the Pikes Peak Marathon.
 - We did support the Cycling Hill Climb this weekend. It went well. Data transfers from the summit to the base.
- Megafest Report - KD0NQM, Jim – No Megafest this year. Hope to have it next year.
- Internet Committee - N7LEM, Doug – Nothing new to report on this.
- Christmas Party 2020 – N6JRL, Don – Nothing to report as it's looking increasingly likely that we won't have a club Christmas Party this year.
- Emergency Repairs at club station – Skylight was damaged from hail. Earl found out the next day that he was exposed to COVID-19 prior to showing up at the club station. KD0KQL – Spray bottles of bleach and water solution to sanitize this weekend.
- Thurs. 10 m and 6 m nets are becoming quite popular. It's a very enjoyable net and some people who aren't members of the club sometimes attend. 2 m net – we typically have about 20 participants. There is also great conversation. Sometimes they pick up people in Pueblo because there is a connection to a repeater down that way.

- Michael, KE0TWK – Designate a member to manage donated equipment. All of the stuff that was recently picked up is at WV7T's house.
- N6JRL, Don - QCWA Chapter 58, WV7T and N0ABC want to get a formal meeting going for this. Isn't sure if we are read for an in-person meeting, unless it is under 10 individuals. N0ABC will resend his email to N6JRL. They can take photos and send into QCWA. KD0SFY is willing to open up his Zoom to them to meet virtually. WV7T is still wanting to do it in-person.
- WA0BCM, Jerre –
- Mark Jensen – Extra for 30 years. Special interest to him is 60 m. He will present on that topic on Wednesday night. His presentation will include what is possible, some history, and he'll also speak a little about himself.
- N7LEM – Doug, Not feasible to have a club picnic. Maybe we do a virtual meeting. Bring their own beverage and food of choice and socialize.
- KD0KQL, Jim
 - A former club member gave us some great equipment. Need to go back to pick up more items. We want to get him set up on VHF/UHF and HF. We've been working with a guy out towards Falcon. Put up a mast and G5RV. Got him on HF and 2m.
 - No water damage to trailer from damaged skylight.
- W5UDM, Dick
 - Put Zoom meeting info on club website? No, we could get Zoom Bombers. Instructions already on website to get ahold of a club officer for info to get on Zoom meeting.
 - Get people to say hello on the Zoom meeting.
 - We applied to ARRL to get into their scholarship program. They won't accept a contribution before next year. We could send scholarship money to QCWA. Can we pick a recipient or put restrictions on the recipient? N6JRL will try to get ahold of the President of QCWA.
- KE0TWK, Michael – Where can we learn what items are up for auction? On the internet and link on website.
- K0BUL, Tom – Group went to club station and did repairs on 160 m antenna. That is functioning. The beam was not removed and rotor replaced. The rotor was taken to be tested. The guy wire is up and fixed to add stability. To be brought up at club meeting Wednesday night to thank those who assisted.

Motion to Adjourn @ 7:15 PM by KD0KQL, Jim

Second by N0ABC, Dennis

All in Favor.

August 2020 Club Meeting Minutes

8/12/2020

CTO @ 7:00 PM by N6JRL, Don

In attendance: 36

- Pledge of Allegiance – Lead by N6JRL, Don
- SK's: None
- Introductions – skipped due to the format of the meeting (online).

New Business:

- New hams – Welcome to Lee Davis who's visiting, KF0AVK who tested in July
- VE Testing – N0ABC, Dennis – Aug 8th had 20 applicants. 10 of which were technicians. 3 will be coming back. Next session on 9/12. Discussion regarding ways to study for the technician test.
- QCWA, N6JRL, Don – Not at the position yet where they can have an in-person meeting. N0ABC, Dennis agreed. KD0SFY, John will set up a QCWA online meeting.
- Treasurer's Report: W5UDM, Dick – presented information including King Sooper's card info.
 - Suggestion regarding contacting QCWA and send our scholarship funds to them for this year, then send to ARRL next year. No comments against doing this. Dick suggested \$1000 as this is our usual yearly amount. N0ABC, Dennis motioned that we donate \$1000 to QCWA provided they can receive it this year. KD0KQL, Jim 2nd. All in favor.
- Secretary's Report: W0WJ, Jay – No business.
- Webmaster Report: N7LEM, Doug – Not Present
- PPARES Report: KD0SFY, John
 - We were told that we're not needed for the Pikes Peak Int'l Hill Climb. This is due to the variances required to do the event. Same things with the PP Marathon. The Pikes Peak Ascent got cancelled.
 - Last Saturday supported the Pikes Peak Cycling Hill Climb
- N6JRL, Don – Not having a picnic for the club this summer. Doing a Christmas Party in December is up in the air.
- KD0KQL, Jim – Larry and Janet were cleaning up the trailer. One of the skylight domes was broken, likely from the previous hailstorm. Earl went out to fix it after work. He put a temp/permanent fix on it. Later found out that he had been exposed to COVID-19. The trailer is on quarantine for now and on Friday it will be disinfected and usable again. Currently it is off-limits.
- K0BUL, Tom – Thanked those who came out to help fix the club station.
- Megafest Report: KD0NQM, Jim – Not present. Hopefully have a Megafest next year since this year's was cancelled.
- K0BUL, Tom – In using the reflector for email, it tends to go to your spam folder. Find your club emails and tell it that it isn't spam. This will mark it as safe for the future.

Program: WA6MVT, Mark – 60 meters

Motion to adjourn by KD0NQM, Jim. 2nd by W5UDM, Dick

Adjourned @ 8:07 PM by N6JRL, Don



ISOTRON 80/40/20 COMBINATION

The easiest way to be ready for Field Day, emergencies or you home station.

www.isotronantennas.com

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**EASY INSTALLATION
EXCELLENT PERFORMANCE
DURABLE CONSTRUCTION
CC&R FRIENDLY (XYL ALSO)**

Getting an HF Antenna To Work

In the July issue a metal mast was recommended to mount your antennas on. However if you choose to use a non-metallic support much of this information will still apply.

You have chosen the spot your antenna is going to be installed. Now you are needing a feedline. Our comments will be concerning coax. It is good practice to run your coax from the antenna to the station as neatly as possible. Secure the coax down the mast or tower either right to it or with an appropriate stand-off, then exiting the mast or tower where needed to run to the station. If you need to run the coax along a roof or exterior wall, use stand-offs. This is for your safety and it will maintain a neat appearance. If it doesn't work at least it will look good.

How much coax to use? On an antenna that is resonant my preference is not to use a choke made from a coaxial coil. You can always add one later if needed. A neat run to the station and leave a few feet extra to be comfortable with the connections. Coiling 50 to 100 feet of extra coax will change things and you will need to be pretty schmart with antennas to figure it out. Of course you are going to be in time.

What about grounding? Back to the mast or tower, ground the bottom of these structures to at least a 4 foot ground rod near the structure. If your mast or tower is elevated from ground, then an applicable ground wire should be attached to the bottom. The ground wire should NOT touch the building, so use stand-offs. This is for your safety. Also keep the coax and ground wire as separate as possible.

Inside start initially with no extra ground wires other than the ground connection to your electrical source. Normally this is all that is needed. Once you have the antenna system working and you want the comforter of more ground wires you can add them. You will know if the extra ground wire is causing a problem this way.

73,
Ralph Bilal

Sept. 2020

New Amateur Extra-Class Question Pool Released

The new Amateur Extra-class license examination question pool, effective from July 1, 2020, through June 30, 2024, has been released and is available at the National Conference of Volunteer Coordinators ([NCVEC](#)) website.



The [2020 - 2024 Extra-class pool](#) incorporates significant changes compared to the current 2016 - 2020

question pool, which expires on June 30. The number of questions in the pool was reduced from 712 to 622. The result was 239 modified questions, 49 new questions, and 139 questions removed due to changes in what was felt to be an abundance of outdated questions, while areas of new technology and subjects were added.

In addition, an effort was made to balance the difficulty level, removing or replacing some questions deemed too easy or too difficult compared to the rest of the pool.

The 2020 pool has 10 diagrams, which have been renumbered because the new question pool has two fewer than the 2016 question pool.

Dayton Hamvention Cancelled

Refund Information

Due to unfortunate cancellation of Hamvention 2020, we know that tickets, inside booth spaces and flea market spaces have been purchased. These purchases have been made by online credit cards, mail order checks and purchased from our outside vendors. All refunds will be through the same method of purchase. All credit card sales will be refunded to the original card used to make the charge. All check and cash sales will be refunded by check. We anticipate all refunds completed as soon as possible but not later than August 1.

We are offering the following options.

1. Obtain a refund.
2. Obtain a 2021 ticket instead. (to be mailed around January 1, 2021) Hamvention 2021 May 21-23
3. Donate to Hamvention (no refund)

For all general admission (not inside or flea market) online and mail orders, email tickets@hamvention.org with your preference. Emails already received will be processed as indicated. Inside booth holders please email exhibits@hamvention.org with your refund preference. If you opt for the hold until 2021 they will contact you to verify.

Flea Market staff will be contacting each flea market space holder personally concerning refund of space(s). For those who purchased tickets at Hamcation in Orlando, please send your ticket (keep a copy for your records) and last four of credit card for credit card refund (if purchased by card) otherwise it will be by check mailed to you.

Hamcation Hamvention forum ticket winners, please email tickets@hamvention.org with your ticket number and address information. We will send you replacement 2021 tickets early next year.

If you purchased a ticket at one of our outside vendors then please return to the place of business and they will handle your refund.

Mail correspondence to:

Hamvention Tickets – 2020 refunds

PO Box 1446

Dayton, OH 45401-1446

ARRL Reshapes Podcast Offerings for 2020

In conjunction with the launch of its new [On the Air](#) magazine, which is aimed at those just beginning their journey in amateur radio, ARRL is reconfiguring its podcast lineup.

Heading up the new schedule will be a free companion podcast to the bimonthly *On the Air* magazine. The monthly *On the Air* podcast will take a deeper look into select features and projects from the magazine. Each month, host and *On the Air* Editorial Director Becky Schoenfeld, W1BXY, will offer additional resources, techniques, and hints to help less-experienced radio amateurs to get the most from the magazine's content.



In addition to the podcast, ARRL Product Development Manager Bob Inderbitzen, NQ1R, will curate a free *On the Air* blog featuring content from the communicators and makers who are the driving force of amateur radio today. The blog will highlight opportunities and activities available to new licensees. The *On the Air* blog is intended as an

entry point into the world of amateur radio for those seeking original voices and perspectives. Readers will be [invited](#) to take part in the conversation by sharing their stories and experiences.

Upcoming events in the Rocky Mountain Division: (more info @ [ARRL.org](#):
click on "hamfests")



UTAH VALLEY HAMFEST & DISASTER COMMUNICATION 2020

The hamfest is now canceled.

We've had several people ask us to consider their registration fee as a donation, but we will also give refunds as requested. Please send refund requests to refunds@utahvalleyhamfest.com by March 31.

Website: <https://utahvalleyhamfest.com>

Sponsor: Utah Valley Amateur Radio Club

Talk-In: 146.780- (PL 100.0)

Public Contact: Caryn Alarcon , KG7UUR

PO Box 1288 Orem, UT 84059

Phone: 562-965-6079

Email: k7uva@arrl.net

ARRL Rocky Mountain Division

Director: Jeff Ryan, KORM

k0rm@arrl.org

Major Events

Visalia DX Convention has been cancelled

Dayton Hamvention has been cancelled

PPRAA Megafest has been cancelled

**Postponed until 2021 – the 2020 ARRL Rocky Mountain Division Convention
Hamcon Colorado**

- Postponed until 2021
- Location: Parker, CO
- More info [here.](#)

PPRAA 75 years Special Event Station
PPRAA Veterans' Day Special Event Station
PPRAA Pearl Harbor Day Special Event Station

- QSL to: PPRAA, PO Box 16521. Colorado Springs, CO 80935-6521
- No need to send a SASE, we will send cards to all confirmed contacts.

Unraveling the Mystery of 1 × 1 Call Signs

The [1 × 1 Special Event Call Signs](#) system offers a way for clubs, groups, or even individuals to use a short call sign of special significance to the amateur community. These 1 × 1 call signs are [reserved](#) in advance for use in conjunction with short-term special events and commemorative operations. The FCC does not assign 1 × 1 call signs, so they are not "official."

On the matter of special event call signs, the FCC says, in Section 97.3(a)(11)(iii) of the Amateur Service rules: "The call sign is selected by the station licensee from a list of call signs shown on a common database coordinated, maintained and disseminated by the amateur station special event call sign data base coordinators. The call sign must have the single letter prefix K, N, or W, followed by a single numeral 0 through 9, followed by a single letter A through W or Y or Z (for example K1A). The special event call sign is substituted for the call sign shown on the station license grant while the station is transmitting."

The FCC also says in Section 97.119 (d): "Additionally, the station must transmit its *assigned call sign* at least once per hour during such transmissions." This requirement tends to be widely flouted, however.

A 1 × 1 Special Event Call Sign aids other radio amateurs by calling attention to the special event or other occasion. 1 × 1 call signs may be used for a variety of purposes, such as conventions, festivals, dedications, anniversaries, commemorations, and ARRL Field Day. Even local events qualify.

There are 750 1 × 1 Special Event Call Sign possibilities, and radio amateurs of any license class may reserve one as far as a year in advance to use for up to 15 days. Of course, 1 × 1 Special Event Call Signs are recycled. It's first come, first served. See the [Frequently Asked Questions](#) page for more information. The FCC has selected coordinators to approve and post 1 × 1 Special Event Call Sign reservations to a [searchable database](#). -- *Thanks to The Radiogram (Portage County Amateur Radio Society newsletter)*

You shop. Amazon gives.

PPRAA VE Session

Monthly on the second Saturday

Pikes Peak Regional Office of Emergency Management

[El Paso County Emergency Services Authority](#)

3755 Mark Dabbling Blvd, Colorado Springs, CO 80907, USA

Organizer: ve@ppraa.org

Saturday, July 11·10:00am – 12:30pm

Monthly on the second Saturday

Organizer: pikespeakraa@gmail.com

pikespeakraa@gmail.com

Amateur Radio Emergency Links Info

Amateur Radio and Emergency Communications

<https://alertfind.com/amateur-radio-and-emergency-communications/>

Disaster Preparedness on a Budget

<https://couponfollow.com/research/disaster-preparedness-on-a-budget>

From the annals of PPRAA history

August 1981:

The club will hold its picnic at the Black Forest Recreational Area on September 13. Field Day went very well up on Rampart Range Road, even though the Army had some kind of site set up there at the same time. The club moved down the road a bit. The work on the club bylaws and the nonprofit status are on hold. Doug Moloney WBØMHP, Bill Allen and Dave Vierling NØDV will work on the federal forms. A newly formed public service committee has been formed consisting of Doug WBØMHP, Bob Poirer KØDJ, Mike Stansberry KØTER and Warren Rubin WBØSJR. The August meeting will be an ARRL question and answer session, with Lys Carey KØOGM ARRL Rocky Mountain Division Director, Marshall Quiat AGØX vice director, and maybe Carl Smith WØWBJ, ARRL vice president. Finally, the Royal Gorge ARC will hold a swapfest at August 23.

ARRL Outgoing QSL Bureaus

www.arrl.org/outgoing-qsl-service

ARRL affiliated-club stations may use the service when submitting club QSLs for its members in bulk ("pooling" their members cards together in one package) by indicating the club name inside the package. Club secretaries should check club affiliation on the ARRL web site to ensure that their affiliation is current. In a "pooled" package, each club member using this service **must also be an ARRL member**. Cards should be sorted "en masse" by prefix and a proof of membership should be enclosed for each ARRL member. QSLs for unaffiliated club calls may also be sent via the outgoing bureau to foreign destinations if the trustee of the club call is a member in good standing. The trustee's proof of membership must be included with the club call-QSLs.

Parker Radio Association

PPRAA Team,

Be sure to join us for our weekly nets Monday and Tuesday evenings!

First, Monday, at 8:30pm, on D-Star XRF223B, the PRA holds its D-Star net. There is plenty of conversations from everything digital to the latest projects and devices... from DStar / DMR / Fusion / Brandmeister / Hotspots, and even CW. This can be accessed via your local hotspot. Also, many have linked via the WOCDs 2M repeater as well. Considering our KOPRA repeater is being relocated, using the WOCDs 2M side would be best (please follow common/courteous practice when linking).

Second, at 8:00pm on Tuesday, is the PRA weekly analog net on the WOCFI 448.675 – (100Hz) repeater. This is a great way to catch up on the happenings of the PRA and is a great environment to ask any question related to the hobby or to give yourself some bragging rights on a recent license, upgrade, or new piece of equipment.

We'll see you on the air!

73, KØPRA Your Friends at the Parker Radio Association

www.facebook.com/parkerradioassociation parkerradio.org

[@ParkerCORadio](https://twitter.com/ParkerCORadio)



PPRAA VE EXAMS

(MONTHLY) No current info on cancellations

PPRAA VE session has relocated and will be held at 10:00 am on the second Saturday of the month at Pikes Peak Regional Office of Emergency Management

3755 Mark Dabbling Blvd, Colorado Springs, CO 80907, USA

Organizer: ve@ppraa.org

TESTING IS FREE. Applicants will need the following items at the session:

1. A valid **PHOTO ID**, driver's license preferred (if you do not have a valid photo ID, please call for alternative identification requirements).
2. Your **FRN NUMBER** (Please obtain in advance of the session).
3. A copy of your **amateur radio license** (if any).
4. The **ORIGINAL** of any relevant **CSCs** you have **AND** a **PHOTOCOPY** for the VE Team to keep.

PPRAA VE Team policy, as with many VE Teams, is to not allow same day retests on failed exams. Anyone passing their Technician Class examination at a PPRAA test session will receive a free year's membership to the Pikes Peak Radio Amateur Association.

Jim Bishop kd0kql@hotmail.com, 719 332-5283

Dennis Major NOABC, PPRAA VE Contact



MARC VE EXAMS

(January, March, May, July, September, November)

The Mountain Amateur Radio Club (MARC) VE Team conducts VE exam sessions in Woodland Park every odd month at 10 am on the first Saturday in the Community Meeting Room of the Woodland Park Library, 218 East Midland Avenue. The MARC VE Team is affiliated with the ARRL/VEC and examinations for all classes of license will be offered.

Full information, including driving directions to the Woodland Park Library, is available under “VE Sessions” on the MARC website at <http://www.nx0g.org/ve.html> or contact Wes Wilson (KØHBZ) at k0hbz@arrl.net or call (719) 687-8758.

If attending, please BE SURE to bring the following items to the session:

A valid PHOTO ID, driver's license preferred (if you do not have a valid photo ID, please call for alternative identification requirements).

- 1. Your FRN NUMBER** (now required – this includes children Please obtain in advance of the session).
- 2. Your ORIGINAL amateur radio license** (if any) **AND a PHOTOCOPY** for the VE Team to keep.
- 3. The ORIGINAL of any relevant CSCEs** you have **AND a PHOTOCOPY** for the VE Team to keep.

- MARC VE Team policy, as with many VE Teams, is to not allow same day retests on failed exams. For already licensed hams, MARC members should be monitoring the MARC repeater system 146.820- or 448.650- (both 107.2 Hz) if you need help with talk-in. 73 Dean Buckhouse



Both the pdf and spiral-bound printed versions are available from Lulu.com, and the print copy is also sold by DX Engineering. You can find them via the links below:

<http://www.ke7x.com/successful/ordering-the-successful-ham-radio-operator-s-handbook>

Here is a link that describes the book in more detail:

<http://www.ke7x.com/successful>

Follow us on www.facebook.com/KE7XBOOKS to keep up-to-date on book news and to be notified of book discounts at www.lulu.com.

This book has 267 pages, 211 figures and diagrams, and 53 tables of data to make understanding the sometimes complicated ham radio operations much easier. The book follows KE7X's philosophy of presenting material in several forms to accommodate people with different learning styles -- reading, visualizing, hands-on -- with the many figures and text explanations and there are hands-on exercises throughout the book that can help you learn more about your particular radio.

Follow us on www.facebook.com/KE7XBOOKS to keep up-to-date on book news and to be notified of book discounts at www.lulu.com.

One instructor for new and advanced ham classes has said, "This book is exactly what is needed. I've seen some other books targeting the new hams that are less than satisfying both technically and in content but this one is right on the mark and covers so much information that I so often get asked about, during and after teaching classes."

Here are more details on the content:

- With nearly 110 years of ham radio experience between them, the authors are still excited about the challenges this wonderful hobby offers. *The Successful Ham Radio Operator's Handbook* will guide you when exploring some of these.
- Its goal is to help new operators and returning old-timers learn about the breadth of exciting ham radio activities and challenges available today.
- It answers the question "Why is ham radio relevant in the Internet age?"
- It covers a wide range of topics, helping the reader to understand the excitement of different facets of ham radio and to choose a challenging and exciting activity to pursue.
- It helps the reader better understand how the radio works. Many hams only use a small fraction of the features of their radio. For example, if you understand how a noise blanker or a roofing filter or the AGC works, you will be able to more easily use these, and other, features of your radio to your benefit.
- It provides exercises designed to apply the knowledge to cement your understanding of how your radio works without being radio-specific. It is good for all makes and models.
- It helps the reader get enough background to understand much of the jargon hams who pursue special activities, such as the various digital modes, VHF contesting and moon bounce. It quickly takes the novice reader to higher level of understanding and provides URLs and websites that help the reader go deeper into new interests.
- Antennas remain a key area where all hams can still successfully experiment and create a key part of their station. This book provides information to help new hams get started cutting their own verticals and dipoles. It explains why some popular multiband antennas may have compromises that impact performance.

- It gives practical guidelines about choosing transmission lines and building and using baluns and chokes.
- Digital modes such as RTTY, PSK and the new WSTJ modes are explained. The computer-to-radio connections needed for these modes are discussed and illustrated.
- Many hams are motivated by public service and emergency preparedness. This book describes typical local emergency organizations and national networks.
- Hams who like to operate while traveling will find practical information on reciprocal international agreements and how to get permission to operate legally.

Online Practice Test Sites



Study for your Amateur Radio License exam:

[Technician \(2018-2022\)](#)

[General \(2019-2023\)](#)

[Amateur Extra \(2019-2020\)](#)

[Other...](#)

HamExam.org Amateur Radio Practice Exams

Log in using <https://hamexam.org> or click [register](#) to create an account. If this is your first visit to the site, please read my brief [introduction](#).

QRZ.COM <https://www.qrz.com/hamtest/>

Eham <https://www.eham.net/exams/>

AA9PW.COM

Membership Application
Pikes Peak Radio Amateur Association, Inc.
P.O. Box 16521, Colorado Springs, Colorado 80935

Date: _____ ☐ New Membership ☐ Renewal

Name: _____

E-mail address: _____

Address: _____

City: _____ State: _____ Zip: _____

Call: _____ License Class: _____ Telephone: _____

Are you an ARRL member? ☐ Yes ☐ No

Additional Name: _____ Call _____ Class _____ ARRL member? ☐ Yes ☐ No

Additional Name: _____ Call _____ Class _____ ARRL member? ☐ Yes ☐ No

Additional Name: _____ Call _____ Class _____ ARRL member? ☐ Yes ☐ No

- ☐ Full Member - \$15.00
- ☐ Full Member over 65 - \$10.00
- ☐ Free - VE Signature Required:

- ☐ Family Membership (same address) - \$18.00
- ☐ Family Membership (both over 65) - \$12.00